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The LIBOR Transition

LIBOR is a key benchmark interest rate underpinning many financial contracts; this rate, however, might disappear as soon as 2021. This In Focus discusses efforts to transition away from the use of LIBOR in financial products in order to avoid disruption if LIBOR disappears.

LIBOR

What Is LIBOR? LIBOR refers to the London Interbank Offering Rate. It measures the interest rate at which banks can borrow unsecured for various lengths of time (“tenors”) in U.S. dollars and four other currencies, thus, at any point in time, there are several “LIBOR” rates. LIBOR dates back to the 1960s and has been published daily since 1986. It is privately determined by polling more than a dozen large global banks in London about their borrowing costs.

How Is It Used? LIBOR is a benchmark or reference rate that helps financial market participants gauge prevailing interest rates. In the United States, many financial instruments are tied to dollar LIBORs, including certain floating-rate loans, bonds, securitized products, and financial derivatives. For example, an adjustable mortgage rate might be set at LIBOR plus a fixed markup. Each month, the rate on the mortgage would be reset based on the prevailing LIBOR. A type of derivative called an interest rate swap might also reference LIBOR. One party to the swap would receive a periodic payment based on a predetermined fixed interest rate, while the other party would receive a payment based on a rate that adjusts based on the current LIBOR. As of 2016, LIBOR was referenced in an estimated \$199 trillion of these financial products.

What Was the LIBOR Scandal? In 2012, the British-based bank Barclays was fined by its British regulator and settled with the U.S. Justice Department, Commodity Futures Trading Commission (CFTC), and a group of states for manipulating LIBOR. Barclays was one of the banks that was polled to determine LIBOR. From 2005 to 2008, employees at Barclays submitted LIBOR data that did not accurately reflect Barclays’ borrowing costs. They did so for two reasons: (1) to profit from Barclays’ swaps trading based on LIBOR and (2) to mask weakness in Barclays’ financial condition during the financial crisis. Subsequently, several other banks reached settlements with regulators for manipulating LIBOR and operating a derivatives cartel that involved sharing information on, among other things, LIBOR submissions. Private parties have also sued submitting banks over LIBOR manipulation.

An inherent weakness of LIBOR that made it potentially susceptible to manipulation is that on any given day there may be little or no actual borrowing by banks at the various tenors that are reported. In that case, polled banks submitted their best estimate of what their borrowing costs would be if

they wished to borrow, giving banks some discretion in what rates they reported. This problem grew following the financial crisis because banks borrowed less as a result of the large increase in bank reserves.

How Was It Reformed? The LIBOR scandal revealed that a rate determining the value of financial products worth trillions of dollars could be manipulated by employees at a handful of banks. Policymakers initiated several reforms in response to the scandal. First, publication of the rate was transferred from the British Bankers Association and made more transparent. Second, production of the rate became regulated by the British financial regulator. Third, calculation of the rate was modified to increase the weight on actual data and reduce the weight on “best guesses” in the absence of borrowing. Fourth, policymakers have encouraged a transition away from the use of LIBOR.

What Problems Remain? Borrowing by banks remains insufficient to determine LIBOR using actual data alone for all but the most popular currencies and tenors. Participation in the LIBOR sample is voluntary and confers limited benefit, and participants are leery of potential further legal exposure. As a result, British regulators have guaranteed LIBOR will exist until 2021, but not beyond then.

The LIBOR Transition

Given LIBOR’s shortcomings and its potential to disappear after 2021, policymakers and market participants are actively encouraging financial instruments transition from LIBOR to alternative benchmarks. It is unclear, however, whether sufficient progress has been made to avoid disruption were LIBOR to disappear in 2021.

What Risks Does the LIBOR Transition Pose? If LIBOR ceased to exist, it could pose a threat to financial stability as long as it continues to be referenced in trillions of dollars in financial instruments (see **Table 1**).

The problem can be divided into financial instruments referencing LIBOR that already exist and those that will be created in the future. Existing instruments that will be outstanding past 2021 (or whenever LIBOR potentially disappears) need to be renegotiated to state what will happen if LIBOR disappears. Replacing LIBOR with another reference rate is one possible option (multiple candidates exist), but requires complex adjustments because no other rate exactly matches LIBOR over time. If the adjustment is done incorrectly, one party to the contract will benefit at the other’s expense, because the interest rate will be higher or lower than it would have been.

For financial instruments entered into in the future, the LIBOR problem could be avoided by using a different

interest rate from the start or including contract language that spells out how the contract will be modified if LIBOR disappears. In principle, since all parties would benefit from not entering into a contract based on an interest rate that disappears, all parties have an incentive to stop using LIBOR going forward. In practice, many financial instruments continue to be based on LIBOR (data gaps make it difficult to know how many).

Table I. Value of Instruments Referencing LIBOR
(estimated notional value outstanding as of end of 2016)

Instrument	Volume (Trillions)	% which matures after:	
		2021	2025
Derivatives	\$190	18%	8%
Loans	\$4.7	23%	7%
Bonds	\$1.8	16%	7%
Securitizations	\$1.8	51%	22%
Total	\$199	18%	8%

Source: CRS calculations based on SIFMA data.

Unless a solution is found, parties to any financial instrument based on LIBOR will not be able to fulfill the legally binding terms of the contract if LIBOR ceases to exist. For individual parties to those contracts, a failure to fulfill the terms of the contract could lead to legal action. Because many of these financial instruments were created by large, systemically important (“too big to fail”) financial firms, unexpected losses or legal liability could cause them liquidity or solvency problems. A problem for a systemically important firm could undermine the stability of the overall financial system. For the system as a whole, if trillions of dollars of financial instruments are in limbo following LIBOR’s end, normal financial intermediation could be disrupted, which would have serious economic consequences. A solution is not required until a decision is made to retire LIBOR, but a later solution would leave less time to rework existing contracts and more time for new LIBOR-based instruments to be created.

Who Is Leading the LIBOR Transition? Federal regulators convened the Alternative Reference Rates Committee (ARRC), a private group of market participants, to develop and oversee a LIBOR transition plan. To that end, ARRC has set out a series of voluntary best practices and milestones. Their preferred alternative to LIBOR is the Secured Overnight Funding Rate (SOFR), discussed below. ARRC has also addressed regulatory, tax, legal, and accounting obstacles to replacing LIBOR. At the international level, the Financial Stability Board has coordinated LIBOR reform and the International Swaps and Derivatives Association (ISDA) has addressed transition issues, such as fallback language for new contracts and amendments for existing contracts.

What Are the Policy Options? Policymakers and industry stakeholders could encourage or compel parties to address the LIBOR transition. To date, the financial regulators and the U.S. Treasury have supported ARRC’s and international

efforts. So far, they have not made the transition recommendations compulsory. Partly, this may be due to limits on their authority. Some financial firms, such as banks, have institution-based regulators with the authority to potentially compel them to reduce their exposure to LIBOR, but others do not. Partly, this may be philosophical—policymakers tend to give sophisticated financial market participants the benefit of the doubt that they will negotiate contracts that are in their self-interest. For products such as derivatives, both parties are sophisticated actors, but for consumer loans, the institution making the loan arguably has an informational advantage that raises consumer protection concerns. Arguably, LIBOR-based instruments are generating systemic risk that the parties to the contract are not fully bearing or are not aware of. Thus, a policy solution could improve outcomes because the parties’ incentive to reach a solution is not as great as society’s overall incentive.

Policymakers could also move away from official use of LIBOR. For example, under 20 U.S.C. 1087-1, certain payments to student loan lenders are based on LIBOR. Another example is the Federal Housing Finance Agency has encouraged Freddie Mac and Fannie Mae to make SOFR-based mortgages eligible for their purchase.

SOFR: A Potential LIBOR Replacement

What Is SOFR? SOFR is the interest rate on an overnight repo collateralized by Treasury securities. It is compiled by the New York Fed and has been published since April 2018. It is ARRC’s preferred alternative to LIBOR. Since its inception, the use of SOFR as a reference rate has grown quickly, but remains modest compared with LIBOR.

What Is a Repo? Economically, a *repo* (repurchase agreement) is a fully collateralized short-term loan between two financial institutions. Legally, a repo is structured as a two-part sale. Initially, the borrower sells the lender a security, such as a Treasury bond. At a later, pre-ordained date, the borrower repurchases the security at a higher price. The difference in price between sale and repurchase constitutes the borrowing rate.

The repo market is one of the largest short-term funding markets. Repos are popular, in part, because the use of collateral and other features removes credit risk—if the counterparty defaults, the lender keeps the collateral.

What Are the Differences Between SOFR and LIBOR?

Some are concerned that differences between SOFR and LIBOR explain why LIBOR has maintained its dominant position, although inertia may also play a role. Reasons that LIBOR may be preferred as a benchmark include that it is already available at different tenors and there’s a long history to help predict how it will perform. In contrast, reasons why SOFR may be preferred include that it has about 100 times greater trading volume than LIBOR and it is based solely on actual trading. These factors make it more robust and less prone to potential manipulation. Finally, LIBOR includes credit risk and SOFR does not; for some financial products, referencing a rate with credit risk is desirable, but for others, it is not.

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